

IN THE CLAIMS

1-13 (canceled)

14. (new) A sintered silicon carbide body having a porosity of 2 to 12 vol.%, wherein the porosity comprises unconnected, closed pores, which are uniformly distributed in the material of the bodies, wherein the pores are spherical, wherein the pores have a nominal diameter of 10 μm to 48 μm and that the diameter of the particles of the pore-forming agent for the production of the pores is in the range of 18 μm to 57 μm before the compaction of a green body to form the silicon carbide body.

15. (new) A sintered silicon carbide body according to claim 14, wherein the pores have a nominal diameter of 15 μm to 45 μm .

16. (new) A sintered silicon carbide body according to claim 14, wherein the inorganic component of the material contains 80% to 98% silicon carbide, 0.5% to 5% carbon, 0.3% to 5% boron and 0% to 20% of a hard material selected from the group consisting of a boride and a silicide.

17. (new) A sintered silicon carbide body according to claim 14, wherein the inorganic component of the material contains 85% to 98% silicon carbide, 1.5% to 4% carbon, 0.5% to 2% boron and 0% to 12% of a hard material.

18. (new) A sintered silicon carbide body according to claim 14, wherein the silicon carbide is alpha-silicon carbide.

19. (new) A sintered silicon carbide body according to claim 14, wherein burnout materials, such as polymers, waxes, starches or cellulose, are used as pore-forming agents.

20. (new) A sintered silicon carbide body according to claim 19, wherein polymethyl methacrylate (PMMA) is used as pore-forming agent.

21. (new) A sintered silicon carbide body according to claim 20, wherein the pore-forming agent is added in a quantity of 0.70 to 5.40 wt.%.

22. (new) A sintered silicon carbide body according to claim 14, wherein the proportion of particles of the pore-forming agent with nominal diameters of between 30 μm and 45 μm is 80% of the total quantity.

23. (new) A process for the production of a sintered silicon carbide body comprising dispersing a pore-forming agent in a suspension of inorganic raw materials components of the material, shaping the body, and heat treating by pyrolysis and sintering to form the sintered silicon carbide body.

24. (new) A process for the production of a sintered silicon carbide body, comprising dispersing pore-forming agent in a suspension of inorganic and organic raw material components of the material, shaping and heating by pyrolysis and sintering to form the sintered silicon carbide body.

25. (new) A process for the production of a sintered silicon carbide body comprising drying a suspension of inorganic and organic raw material components of the materials and homogenously mixing the pore-forming agent in the dry state with the mixed inorganic and organic components shaping, and heating to produce the sintered body by pyrolysis and sintering.